

Organ-Chips Enhance the Maturation of Human iPSC-Derived Dopamine Neurons

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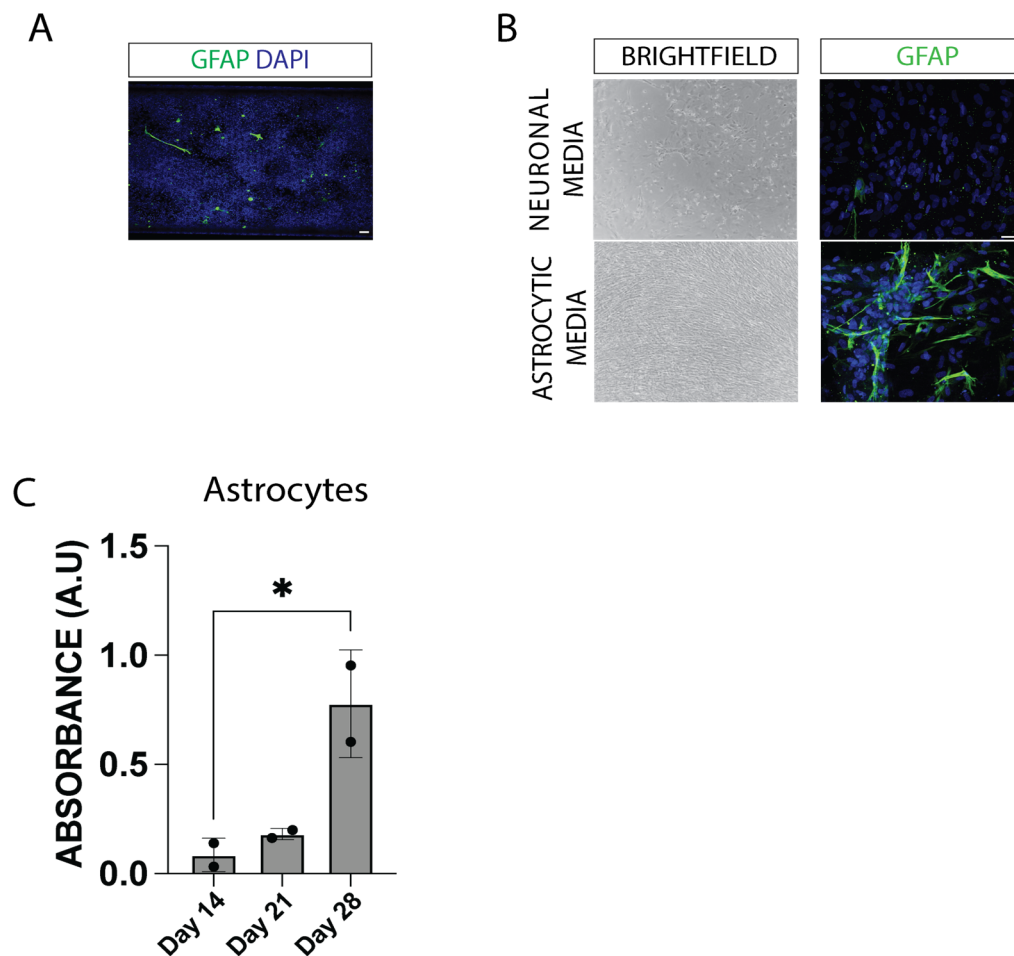


Figure S1. Astrocyte numbers are decreased with culture in neuronal media. **(A)** Organ-chip stained with GFAP and counterstained with DAPI at day 28. **(B)** Brightfield and immunocytochemistry of human midbrain astrocytes in neuronal maturation media or astrocyte media (bottom) after 28 days, with GFAP (green) and DAPI (blue). Scale bar 50

μm . (C) Lactate dehydrogenase assay was performed on media from 2D cultures of astrocytes alone in neuronal maturation media at days 14, 21 and 28. N=2 independent experiments with n=1 well of astrocytes per experiment. Samples were quantified in duplicate and averaged. Error bars represent mean \pm standard deviation (SD). One-Way ANOVA with Tukey post-test * $p < 0.05$.

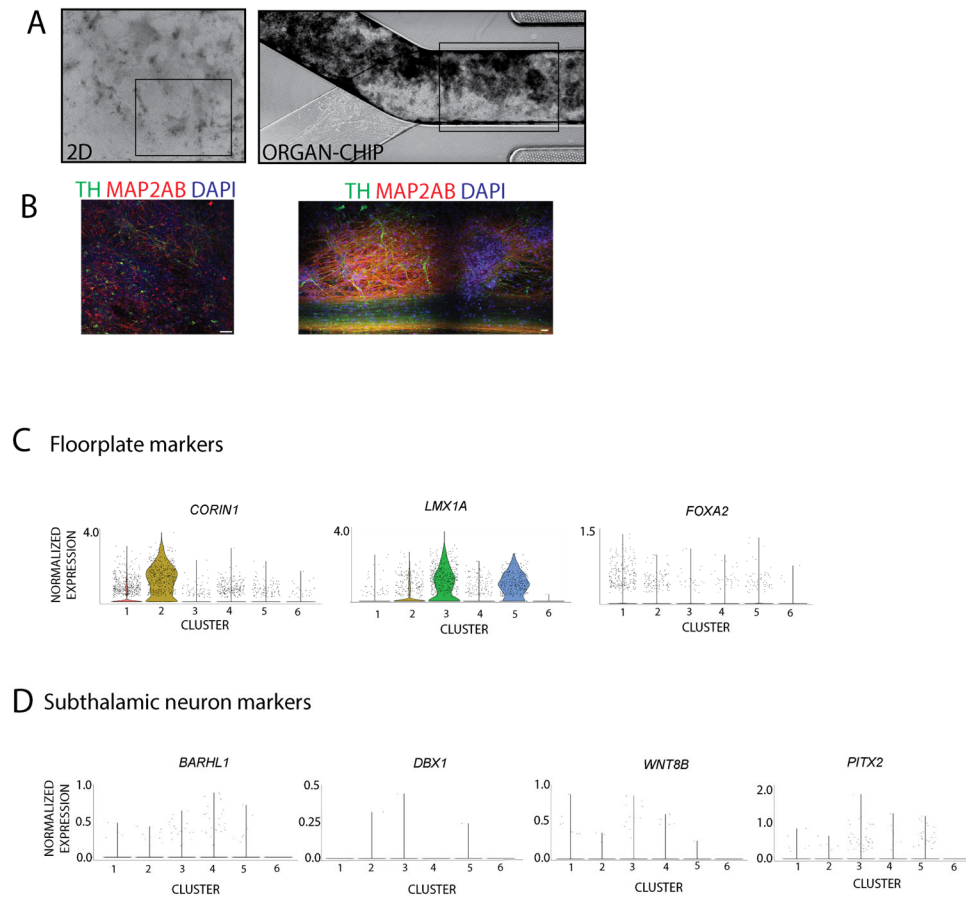


Figure S2. snRNA-seq analysis of 2D cultures and organ-chips. Additional 2D and organ chips used for the snRNA-seq experiment shown with (A) brightfield images of live cells and (B) immunocytochemistry for TH (green), MAP2ab (red) with DAPI counterstain (blue). Scale bar 50 μm . (C,D) Violin plots show the expression of (C) Floorplate markers (*LMX1A*, *FOXA2* and *CORIN1*) and (D) Subthalamic neuron markers (*BARHL1*, *DBX1*, *WNT8B* and *PITX2*).